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RESEARCH ARTICLE

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The impact structure of social capital on corporate performance: Empirical evidence from listed companies in China

Abstract Vertical relationships with the government, particular relational capital and organizational social network capital, constitute corporate social capital (CSC). Using the empirical data of 97 listed companies in China, this paper examines the impact of CSC on corporate performance, finds that CSC has a positive impact on sales revenue but an insignificant impact on the improvement of ROA. More specifically, when a firm enlarges its sales revenue, the function of organizational network capital is stronger than that of a particular relational capital and that of governmental connections. The paper also finds that state-owned enterprises (SOEs) have more advantages in using governmental connections, therefore leading to better social status than non-SOEs do, who have fewer advantages in using any particular relational capital. The article suggests that managers should appraise carefully the effectiveness of CSC, and combine it with other resources; firms should distinguish the structure of the impact of CSC on performance improvement in a dynamic way. With respect to the implication of this paper, it could help in analyzing firm behaviors in the transitional China.

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1 Introduction

Research on firm behaviors and performance has been mainly conducted by economists and management scholars. Management scholars provide us with theoretical and empirical evidences including the resource-based view (Wernerfelt, 1984; Barney, 1991), competitive strategy (Porter, 1980, 1985), core competence (Prahalad and Hamel, 1990), corporate culture (Kotter and Heskett, 1992), dynamic capabilities (Teece et al., 1997), and knowledge (Hayek, 1945; Ikujiro, 1991). Whereas economists contribute a lot of fundamental demonstrations to firm behavior theory, such as entrepreneurship (Schumpeter, 1934; Kirzner, 1979; Casson, 1982; Zhang, 1995), human capital (Becker, 1964; Schultz, 1971; Zhou, 1996), transaction cost (Coase, 1937; Williamson, 1975, 1980; Alchian and Demsetz, 1972), contractual theory (Grossman and Hart, 1986; Hart, 1995), and information and strategic behavior (Tirole, 1988; Fudenberg and Tirole, 1990). The theory of physical and human capital is used in both management and economics to discuss firm behavior; however, much less attention has been paid to the relational capital, which is called social capital nowadays and exists among economic actors (Granovetter, 1985). In the new-economy era, corporate social capital (CSC) plays a more and more important role in acquiring better performance (Bian and Qiu, 2000; Bian, 2002; Batjargal, 2003), and attracts more and more attention from sociologists and economists (Adler and Kwon, 2002).

By using data of the listed companies in China, this paper demonstrates the impact of CSC on corporate performance. Unlike documents using individual relationship (Bian and Qiu, 2000; Bian, 2002) or personal ties (Peng and Luo, 2000; Batjargal, 2003) as substitute index to study CSC, we consider CSC in an organizational level and cast our eyes more on the characteristics of a firm as a whole. In this paper, we address three research questions. (1) Which kind of corporate performance does CSC contribute to? (2) What kinds of factors of CSC influence corporate performance more? (3) Are there any special characteristics of the impact of CSC in the Chinese context? The structure of this paper is as follows: the first part is literature review, and in the second part we give a conceptual framework and relevant hypotheses; the third part is methodology, the fourth and fifth part are the results of empirical analysis and discussion respectively; the sixth section includes concluding remarks and implications of this research.

2 Literature review

2.1 Social capital

Social capital theory is based on “social network” according to our study on its development history, which is a fundamental conception for understanding social capital clearly. Social scientists have so far provided various kinds of definitions of social capital (Adler and Kwon, 2002; Bian, 2004), and these definitions can be classified into three dimensions as follows. (1) Theories from some researchers focus on the external relations (Bourdieu, 1985; Burt, 1992; Portes, 1998), and interpret social capital as social network relations, actual and potential resources, abilities, and opportunities inherent in these networks. (2) Some authors emphasize the internal characteristics (Colman, 1990; Fukuyama, 1995; and Putanam, 1993), and describe social capital as social structural resources that facilitate individuals, the ability to work together for a common purpose, and norms and trust facilitating cooperation for mutual benefit. (3) Some others define social capital with both external and internal ties (Nahapiet and Ghoshal, 1998; Woolcock, 1998; Lin, 2001; Adler and Kwon, 2002), and regard it as both network and assets that may be mobilized through the network, “the information, trust and norms of reciprocity inherent in one’s social network”, and the goodwill available to individuals or groups. As far as the three dimensions above are concerned, we focus mainly on the external social capital.

2.2 Corporate social capital

As Burt (1992) points out, social capital is friends, colleagues, and more general contacts through whom one receives opportunities to use financial and human capital (Burt, 1992). A corporation also has “more general contacts”, which are a kind of corporate social capital that act as the last success-arbitrator in market competition. According to his theory of structural holes, if an actor possesses an advantageous position connecting to heterogeneous resources in social structure, he will possess more social capital. Baker (2000) defines corporate social capital as resources embedded in the inter-person relationship and firm relationship, including information, idea, clue, business opportunities, financial capital, power and influence, feeling support, goodwill, trust and cooperation. A firm can enhance the organizational capability through its social capital. Hüppi and Seemann (2001) argue that corporate social capital includes social norm, social value, context, strategic vision, and the network and relationship embedded in the relevant network. They point out that social capital is an important way in which business can sustain competitive advantage under the new economy circumstance. Cohen and Prusak (2001) believe social capital can help to explain the original dynamic power of an organization, because it comprises the following strategic “material”: trust, reciprocal understanding, shared value and behavior, which make people interact actively and bundle the inter-personal network and community members. Blyler and Coft (2003) discuss the value of social capital in the perspective of dynamic capability and rent appropriation. They argue that social capital plays an important role in the acquisition and integration of the core resources of dynamic core competence, and in the realization of personal goal. Specifically, those who occupy structural holes, span organizational boundaries, or who are highly central may be most able to appropriate rent because their social capital grants credibility to their claims.

In Chinese or the great Chinese context, *guanxi* (connection) is deemed a sort of social capital, and *guanxi* web is similar to the concept of social network. Theoretically speaking, *guanxi* is defined as special relationship due to the existence of particularistic ties (Tsui et al, 2000), and particularistic relationships, which are built simultaneously for the relationship and instrumental purpose (Lin, 2001). *Guanxi* is certainly a kind of capital (Bian, 1997) and can contribute to firm performance (Peng and Luo, 2000; Luo and Chen, 1997). Probably induced by this logic, researchers have studied the relationship between firms and the government in China, and found that this kind of corporate social capital, which includes vertical, horizontal connections and entrepreneur’s social relations, can affect the labor productivity efficiency (Bian and Qiu, 2000). Another type of social capital, entrepreneur’s friendship, has also been studied (Batjargal and Liu, 2004), and researchers state that social capital can serve as informational ties and a social risk reducing device moderating uncertainty, and plays an important role in the access to risk capital support. How corporations supply their social capital in the network is studied by Shi and Hu (2005). They define corporate social capital as special factors lowering informational asymmetry in specific corporate network, and argue that the voluntary supply of corporate social capital interacts with “non-social capital” such as firm size and price of resource. Tsui et al (2006) synthetically use hierarchical ties, network closure and structural holes to demonstrate the impact of social capital on manager’s reputation in China. Their findings extend our knowledge of the mechanism of relationships (*guanxi*) in China and also push the boundaries of the social network theories to take the importance of different cultural contexts into consideration.

2.3 A short review

To date, relevant literatures have interpreted the development history and functions of social capital, and demonstrated the special power for corporate performance. However, there are still some unanswered problems. For example, scholars almost measure social capital via the *guanxi* concept at the individual level (such as ties, friendship, trust), and neglect the organizational nature when they study firm behavior. Besides, there are more literatures on social capital of family firms and private firms than that of the listed companies in China. All in all, mining the potential value of social capital still needs a lot of serious work.

3 Theoretical development and hypothesis

3.1 Corporate social capital

It is necessary to give some interpretation about the definition of CSC. In this paper, we define CSC as relational resources of a firm mobilized through its social relation network and its relevant ability. Specifically, CSC is a kind of social network resource and obtained through social relationship (Lin, 2001), which is similar to the tradition of social capital. Also, we adopt the logic of Bian and Qiu (2000) and Bian (2002) that relations of a firm include vertical, horizontal and social connections. The ability of CSC differs from the capability of “learning by doing”, because the former is built up through the interaction between actors (including individual and organization), and embedded in the relational network among the firm and other actors, whereas the latter brings actors a kind of special professional skill, which is a sort of human capital and less related to social network.

In this paper, CSC includes two parts: the entrepreneurial social capital (ESC), and the organizational social capital (OSC). According to the contract theory of economics, a firm is a nexus of contracts, and the entrepreneur plays a central role in the contract-signing procedure (Zhou, 1996; Demsetz, 1997). In this aspect, we can argue that ESC is pretty necessary for CSC. The organization theory, however, insists that firms exist as “special community” (De Geus, 1996) founded by human being and should possess “its own social capital”. That is to say, although a firm is made up of a lot of individuals, it after all cannot be regarded as a simple aggregation of some individuals’ strength. In short, ESC and OSC are both related and differentiated.

Furthermore, we also classify the OSC into two parts: particular relational capital (RC) and organizational network capital (ONC). The former can be interpreted as the special business network of a firm, and the latter mainly as varied social connections between a firm and other social actors. Hence, CSC in this article is mainly composed of ESC, RC, and ONC.

3.2 The efficiency of CSC

Social capital provides us with a fresh tool to penetrate the theory of the firm in the new economy era. Ericsson and Michelson (1996) argue that the core competence of a corporation is not only a kind of organization capital that displays its inner harmonious ability, but also a kind of social capital that demonstrates the resources existing among its outer environment, playing a complementary role in cultivating corporate capability and can enforce the market power of a firm like financial capital. In perspective of competition, corporate social capital may be a sort of entry barrier to deter competitor from snatching market share. Nahapiet and Ghoshal (1998) insist that social capital will contribute to intellectual capital through the process of combination and exchange and enhance the organizational advantage.

The contract theory argues that the nature of the firm is to reduce transaction cost (Coase, 1937), and Cheung (1983) points out that informational cost is the major part of transaction cost. This interpretation, however, does not induce the effect of social tradition, which includes the characteristics of information flow in different social structure and influences of ex-ante systems such as hierarchical and bureaucratic organizations, into its consideration. Social capital theory also notices this phenomenon. For example, Fukuyama (2003) points out that reducing transaction cost is actually the economic function of social capital, because rich informational flow and business opportunities embedded in social capital can facilitate the access to information and economic action (Coleman, 1988). Using terms of the resource-based view, social capital is the strategic resource to decide the competitive advantage of a firm. Although information and knowledge will be the most important resources for any organizations in the knowledge economy times, a firm always decreases information-obtaining cost through social capital to improve its performance (Powell and Smith-Doerr, 1994; Podolny and Page, 1998). Hence, we make hypothesis 1:

Hypothesis 1*: The more social capital a firm possesses, the better performance it will obtain.*

3.3 The relational role of government in economic development: political social capital

Constructing a market-oriented economy with Chinese attributes, transforming the function of government, and making full use of the market mechanism allocating resources, constitute the total goal of the reform of the economic system in China. Impersonally speaking, the role of government in economic development cannot however be neglected as yet in the transitional Chinese economy. In a recent investigation, entrepreneurs show their concerns on the interference of government with economic development (Table 1).

Table 1 shows that the first factor concerned by entrepreneurs in various types of firms in China is the function of government, and the second is social security. Issues including financial system, fiscal system, breaking through industrial

Table 1 Entrepreneur's concerns on the degree of emergency of reform in China (%)

Item	General	SOE	NonSOE	Private	Listed
Government function transition	66.9	69.3	66.4	66.8	67.4
Improve social security system	37.5	46.4	35.7	32.9	47.7
Financial system reform	32	15	35.6	39.5	27.9
Monopoly industry reform	30.9	30.4	30.8	31.4	20.9
Fiscal system reform	30.2	21.2	32.2	34.1	26.7
Property right institution reform	25.7	42.3	22.2	16.7	39.5
Promote private firm development	25.3	8.2	29	35	9.3
SOE reform	21.5	47.2	16.1	10.3	36
Investment system reform	12.6	8.7	13.6	14.4	10.5
Land institution reform	8.6	5.9	9.2	8.8	7

Notes: $N = 3511$.
Source: CESS, 2005.

monopolization, and promoting private firm development have also attracted more attention from entrepreneurs. Generally speaking, to reform the above fields, the government will surely play a critical role and issue related policies that are sure to affect the development pattern and advantage layout of different firms. As Heertje (1998) points out, "without the role of the state today, it is unimagined to form a complicated economic and social network. Individual depends not only on the market transactions in the private sector, but also in high degree on productions and services provided by the government, such as the legal system, education and economic foundations (Stiglitz, 1998: 19)." Xin and Pearce (1996) argue that *guanxi*, as a special connection of trust and obligations with government officials, will be a sort of substitute for formal institutions and better corporate operation efficiency. In our survey and interviews, most respondents express the similar opinion:

> "In China, the state is not a special institution with specific function boundary, such as providing public goods and offsetting the market failure. On the contrary, it is a government with comprehensive power. Although a market-oriented economy is the basic logic of economic development, governmental interference still exists everywhere in our society, for example, resource allocation, educational development, product pricing, enterprise administration, industrial regulation on entry and quitting, etc. If you want to utilize any resource, it is quite likely for you to deal with government in China."

In spite of some radicalness, our interviewees provide a realistic point of view: the relationship with the government must be a kind of very important resource, which is called corporate political social capital, for a firm to obtain better development.

Taking all these factors into consideration, we can arrive at the following hypothesis.

Hypothesis 2*: The better relationship with the government a firm holds, the better performance it will acquire.*

3.4 Organizational social network capital

Realistically speaking, a firm should be viewed as a member of the "corporate network community", and it is embedded in the network that it cannot be isolated from. The inter-organization network can help a firm acquire new skill and knowledge (Podolny and Page, 1998). Therefore, the social relational network possessed by a firm constitutes a critical social characteristic of corporate social capital (CSC), exists among the corporate network and gradually expands through the interaction with other actors. By doing so, a firm can benefit from this kind of connections with related entities, such as government, community, cooperator and even competitor. It can also facilitate its own actions to obtain some resources by acquiring better reciprocal appraisal from the corporate network. If we regard a firm as a special member of human society, then the social connection of organizations is similar in function to that of individual's. Then, we hypothesize

Hypothesis 3*: The more organizational social network capital a firm gets, the more positive effects it will have on its performance.*

3.5 Particular relational capital

Why does a firm have more competitive advantages than others? Economists argue that it can reduce more transaction cost (Coase, 1937; Williamson, 1985). We, furthermore, argue that the other reason is that a firm existing as an organization agglomerates some advantageous resources or skills that individuals cannot acquire, such as franchise operation network, stable client relationship, distributional channel network, goodwill, etc. Unlike physical capital replicated easily by other organizations or human capital monopolized by individuals, these resources are a sort of interactive relational capitals embedded in the cooperative network, are not public goods shared or possessed by competitive business actors, but a kind of particularly strategic assets. Some companies establish a distribution network through franchise pattern. For example, McDonald's and Kentucky Fried Chicken (KFC) originally relied on their good reputation. However, the rapid expanding distributional networks structure their strategic assets and bring much better reputation and great profit, because the business relationship and inter-dependence of reputation among their league subordinate members constitute the inimitable advantage. Some traditional textbooks sometimes sort this capital into intangible assets, but we argue that not all intangible assets are social capital, they are related conceptions. Considering franchise network, if a firm possesses a kind of franchise right, it can use the franchise network or related goodwill to enhance its own competitive efficiency. The above analyses suggest the following hypothesis:

Hypothesis 4*: The more particular relational capital a firm possesses, the better performance it will obtain.*

3.6 The role of ownership: SOEs versus non-SOEs

Although the Chinese economy is in a transitional stage, the inertia induced by the central government planned economy during the past fifty years cannot be eliminated soon. On the contrary, it will result in the trust in national capital as yet. This theoretical logic demonstrates that not only corporations pay more attention to the relationship with government, but also the society is apt to vote their trust appraisal to corporations with governmental background. However, the malpractice of a planned economy, policy burden and soft budget constraint (Lin et al., 1996) maintain the dependence of SOEs on the government, and provide SOEs with less incentive to promote technology innovation or to manage effectively their client network. That will negatively affect the firm performance. Non-SOEs, which are viewed as the new power of economic development, have developed fast in recent years, and bring some new power for market change. Because they are born in the market-oriented economy environment with non-state-owned capital, non-SOEs cannot obtain enough governmental support. Therefore, we suggest that non-SOEs only pay more attention to market force and accumulate their own competitive capability. By doing so, non-SOEs will possess operative predominance as SOEs do, and we suppose that non-SOEs do better in maintaining particular relational capital than SOEs do. Hence,

Hypothesis 5*: To improve performance, SOEs use more governmental relationship and holds more appraisal advantage than non-SOEs do, while non-SOEs have more advantage in particular relationl capital than SOEs do.*

4 Method

4.1 Sample and data

According to the Report of Chinese Corporate Competence (Jin, 2003) supported by the Chinese Academy of Social Sciences (CASS), we choose 101 listed companies in 2002 in China. The 101 corporations come from over 16 industries and 22 provinces, such as Beijing, Guangdong, Shanghai, Shandong, Sichuan, Jiangsu, and so on, and all of them have positive equity in 2002. There is no

ST-company (Special Treatment Company) in the sample. Because of the differences in financial systems, we wipe out four finance and insurance companies and obtain 97 valid sample companies. Considering the whole listing company group in the Shenzhen and Shanghai Stock Exchange, the sample size might be pretty small, but that is the most appropriate sample with competitive data published publicly that we could find as yet.

All data of CSC in this paper are chosen from the CBCM Database of CASS and data of financial and market performance from the Wind Database.

4.2 Independent variables

The independent variable is the corporate social capital (CSC), and it is measured through the following three aspects: relationship between entrepreneur and government, particular relational capital and organizational social network capital.

4.2.1 Relationship between entrepreneur and government (ESC)

We measure the ability to mobilize political resources of a firm through ESC. We choose the board chairman of a listed company as the entrepreneur who is the real decision-maker of the firm in China, and measure his entrepreneurial relationship with the government by his experience in working in government sectors or related organizations before the present headship. Different from Bian and Qiu (2000), our measurement uses the bureaucratic rank as an index to measure ESC, because with the advance in China's economic system reform, most entrepreneurs do not have relevant bureaucratic ranks any more. The first advantage of our measurement is to solve the above problem, that is to say, even though without a present bureaucratic rank, an entrepreneur is sure to accumulate a lot of governmental relational resources if he had been working in governmental sectors or related institutions. Another merit of our measurement is to indicate the ability to mobilize and use relational resources of an entrepreneur, because it is obvious that a person who worked in government sectors naturally has dominance in finding out scarce resources and precious information than the other who did not have the experience. An inartificial interpretation is that the government is the aggregated access to all sorts of economic and political resources in China, and officials are of course "trained" to distribute these resources and then possess this kind of ability. We use an ordinal index with a 5-point scale to measure this variable, if an entrepreneur had been working in one of the following institutions: government, SOE, university and research institutes, private firm, or multinational company, he or she will get a score of 10, 8, 6, 4 and 2 respectively.

4.2.2 Organizational social network capital (ONC)

In that a firm is embedded in its social network, its ONC can, therefore, be measured through the appraisal made by the relevant actors in the network, such as government, cooperator, client, competitor, etc. We use the popularity index of CBCM, which is composed of three factors: degree of acknowledgement, synthetic impression and development confidence of the 97 sample companies given by respondents, to approximately measure ONC. The respondents include SOEs, state holding company (SHC), stock company (SC), collective firm (CF), joint venture (JV), foreign investment company (FIC), private enterprise (PE), government (Govern), and others (Table 2). We can also see in Table 2 that most respondents are the economic actors of market economy, policy makers, or the rule-makers of competition.

Table 2 Characteristics of the respondents

Unit	Govern	SOE	SHC	SC	CF	JV	FIC	PE	Others
Percentage	20.12	7.62	7.32	16.31	8.11	6.25	2.34	20.02	11.92

Source: CBCM Database.

Now another question is, whether this kind of appraisal can be a kind of social capital. Our yea-saying answers are mainly as follows: the popularity index of a company demonstrates its social status in the network. According to Lin (2001), social status depends on the accumulation and distribution of an actor's reputation, which is measured by the degree of acknowledgement among the members in the social network or collective community. Therefore, we argue that it is certainly a sort of social capital, because the actor's social network can be used to mobilize others' support through its reputation and enhance the actor's influence on the other members in the social structure. For example, a company with a higher degree of acknowledgement will obtain more ability to mobilize resources, attract more excellent employees and sell more products. Generally speaking, a firm getting a lower score in reputation cannot acquire better appraisal in the corporate network, because other firms in the network may change authorization by this informational signal, reduce the confidence in the firm, or select another company with richer social capital as the new business partner.

4.2.3 Particular relational capital (RC)

Existing literatures on franchise network, client relation network and goodwill mostly include RC into the intangible asset item, and some researcher finds that RC possesses quite a large part of value of intangible asset (Wu, 1994; Zhao, 2005). We, hence, use the item of intangible asset of financial statements of listed companies to approximately measure RC.

4.3 Dependent variables

The *dependent variables* are returns on assets (ROA) and sales revenue (SR), which are used to measure the performance of listed companies. We average the data of ROA and SR from the fiscal year of 2000 to 2002 to eliminate the effect of contingent factor. And, we argue that SR reveals the relative market power of a firm, for example, a company with larger SR will be likely to achieve better operation performance. However, ROA displays the qualitative characteristics of operation efficiency. In general, SR reflects the quantitative aspect of corporate performance while ROA demonstrates the qualitative ones. We use the logarithm value of SR to smooth the unit differentiation.

4.4 Control variables

We include four control variables in this paper. First, we controlled the *ownership* of companies, because in the transitional economy, different ownership structures can affect the way in which a firm obtains social capital and improves its performance. It is a dummy variable, codes 1 for SOEs (the first shareholder is national) and 0 for non-SOEs. We also included the *history* of a company as a control variable, which equals the time from the founding date to 2002. The founding date mainly comes from the WIND database. The characteristics of *industry* are the third control variable, codes 1 for the emergent industry (including IT, biological medicine and electron industry) and 0 for traditional industry. The fourth control variable is the *region* differentiation, according to Fan and Wang (2005), codes 1 for the developed economic areas (including Guangdong, Zhejiang, Fujian, Shanghai, Jiangshu, Beijing, Shandong, Tianjing) and 0 for the developing ones.

5 Results

5.1 Descriptive statistics

Table 3 presents descriptive statistics and Pearson's correlations. Means for ROA and SR are consistent with the common logic that most sample listed companies have good pay-off capability (mean for ROA = 8.38%) and quite strong market power (mean for SR = 4146.05 million Yuan, about 510 million US$). Because ONC ranges form 0 to 1000, the mean for ONC (666.85) presents that social network capitals of sample companies are higher than the average level. The mean

Table 3 Descriptive statistics and Pearson coefficients

	Mean	SD	SR	ROA	ONC	RC	ESC	Ownership	History	Region	Industry
SR[a)]	4146.05	5310.06	1								
ROA	8.380	5.034	−0.101	1							
ONC	666.85	136.53	0.355***	0.073	1						
RC[a)]	181.23	476.37	0.329***	−0.162	0.234**	1					
ESC	8.51	1.535	0.134	0.047	−0.072	0.177	1				
Ownership	0.72	0.451	0.149	0.053	0.050	−0.073	0.160	1			
History	7.20	3.923	−0.009	−0.236**	0.067	0.085	−0.155	−0.175	1		
Region	0.71	0.455	0.082	−0.082	−0.016	0.149	0.136	−0.142	0.073	1	
Industry	0.23	0.421	0.048	−0.065	0.250**	−0.01	−0.244**	0.117	0.086	−0.035	1

Notes: [a)] Million Yuan.
$*P<0.1$, $**P<0.05$, $***P<0.01$ (two tailed)

for RC is 181.23 million Yuan (about 22 million \$), and ESC has a mean of 8.51 showing that most entrepreneurs of sample companies worked in SOEs and government sectors. The mean of ownership indicates that 72% of sample companies are SOEs, and the mean of history states that, on average, the sample companies were founded 7 years ago. We can also see that 71% of sample companies are in developed areas and 23% are in traditional industry. Generally speaking, most Pearson coefficients do not exceed 0.5 and are insignificant, so these variables can be used to interpret some problems separately.

5.2 Social capital and corporate performance

Firstly, we synthesize the three independent variables by means of factor analysis and obtain the CSC factor score, then use it as the proxy of CSC. Table 4 provides evidence that CSC affects corporate performance. In model 1, all control variables are insignificant; however, the CSC factor is positively significant ($\beta=0.733$, $P<0.01$). Therefore, we find the positive impact of CSC on the SR of firms. The result shows that, given the ownership, degree of regional marketization, industry and corporate history, every high score of CSC will enhance the SR by 2080 thousand Yuan (about 250 thousand US\$). This finding is consistent with the results of Bian and Qiu (2000), Peng and Luo (2000) and Batjargal (2004), and partially support hypothesis 1. However, model 2 demonstrates that the evidence is not significant to determine the effect of CSC on the improvement of quality of corporate performance.

5.3 Impacts of different social capital on corporate performance: further analyses

In this section, we will explore which type of social capital affect corporate performance more. Because of the insignificant impact of CSC on ROA, Table 5

Table 4 The impact of CSC on different corporate performance: OLS analysis

	SR model 1	ROA model 2
Control variables		
Ownership	0.250	0.037
Region	0.132	–0.785
Industry	0.130	–0.567
History	0.005	–0.288**
CSC	0.733***	0.286
F value	3.525***	1.232
Adjusted R^2	0. 116	0.012

Notes: *$P<0.1$, **$P<0.05$, ***$P<0.01$ (two tailed)

Table 5 Impacts of different social capital on corporate performance: further OLS analysis

	Sales revenue				
	Model 3	Model 4	Model 5	Model 6 SOEs	Model 7 Non-SOEs
Control variable					
History	–0.006	–0.007	–0.006	–0.003	0.016
Region	0.174	0.147	0.168	0.218	–0.077
Industry	0.011	0.049	0.042	0.300	–0.344
Ownership	0.215	0.271	0.219		
Social capital					
ESC	0.134*	1.606**	1.444**	0.188*	0.117
RC	0.147**	0.860***	0.782***	0.076	0.502**
ONC	1.533***	1.551***	3.361***	1.504**	1.473
Interactions					
ESC*RC		–0.085**			
ESC*RC*ONC			–0.012**		
F value	3.22***	3.654***	3.564***	2.233**	2.237**
Adjusted R^2	0.153	0.198	0.193	0.108	0.236

Notes: The interaction of RC*ONC and ESC*ONC are not significant, so they are not reported.
*$P<0.1$, **$P<0.05$, ***$P<0.01$ (two tailed).

summarizes the results of the effects of three kinds of CSC on SR. Coefficients in model 5 show that all three CSC factors do have a positive value of promoting corporate sales revenue. The first important effect is ONC ($\beta = 1.533$, $P<0.01$), the second is RC ($\beta = 0.147$, $P<0.05$), and the third is ESC ($\beta = 0.134$, $P<0.1$). These data partially provide empirical evidence for hypotheses 2 to 4 to pass the test.

Model 4 examines the effect of the interaction between ESC and RC. When the variable of ESC*RC is added in the regression model, we obtain a significant coefficient ($\beta = –0.085$, $P<0.05$) and find that all coefficients of the three

CSC factors become much higher. The biggest change is the variable of ESC (from 0.324 to 1.606), and suggests that the entrepreneurial relationship with the government will become the most important one given the interaction of ESC*RC. However, model 5 indicates that, given the interaction of ESC*RC*ONC, the most important factor will be ONC, and ESC will be the second one.

Models 6 and 7 test hypothesis 5. We obtain evidence showing that ESC ($\beta = 0.188, P < 0.1$) and ONC ($\beta = 1.504, P < 0.05$) have positive and significant impacts on SR; however, they are insignificant in model 7. As far as RC is concerned, its coefficient demonstrates the positive effect ($\beta = 0.502, P < 0.05$) on SR, nevertheless, it is also insignificant in model 6. These data, of course, totally support hypothesis 5.

6 Discussion

6.1 The effect of social capital on corporate performance

Why can social capital affect corporate performance? Bian and Qiu (2000) explain this problem through social structure and traditional culture, and their basic argument is reasonable in the transitional background. They, however, measure corporate social capital only by the entrepreneurial index and neglect the organizational characteristics of a firm.

According to the complexity theory, we are living in a complicated and non-linear world and "walking at the edge of chaos", because society, organization and people are all complex systems (Yang et al, 2000). Therefore, many organic relations among all kinds of parts should not be ignored any more. The resource-based view (Barney, 1991) argues that it is the invisible and blurry resource profiles that contribute mainly to corporate competence. That is to say, we cannot tell clearly which specific social capital will influence corporate performance independently. Several resources must be working together to improve it. Nelson and Winter (1982) argue that the capability of a firm is an integrated one that cannot be decomposed to anything that people know clearly, or even not be disassembled to entity, any equipments, or devices. Hence, we should understand corporate social capital synthetically. The CSC level is the outcome of contributions of the whole organizational resources, which includes not only entrepreneur, management team and staff, but also the influence of organizational power. For example, it will be more convenient for a top-10 company to acquire many favorable relationships than for a little firm, and we would rather believe it is the aggregate status that attracts some people or institutions, the entrepreneurial ability is certainly necessary but not the first one in this context.

6.2 Reconsidering the role of ESC

According to the stakeholder theory we argue that firm behavior not only has influence on various stakeholders including supplier, retailer, shareholder, government, competitor and others, but these entities, in turn, form a kind of close relational network that is possibly more important to corporate profit than individual social network. In reality, firm behavior is a sort of organizational conduct, not the simple sum of individual behavior. Hence we use this logic to analyze the further factor of the relationship between firm and government.

Why is the coefficient of ESC in model 3 the smallest one? We discuss this question in the following ways: first, China's entry into the WTO in 2001 hastens the exercise of market rules in the country and reduces the degree of dependence on the government (but not neglecting the power of government). Second, our sample companies are all listed companies, which are outstanding ones of Chinese companies, and they must pay more attention to how to acquire an advantageous market status and social acknowledgement. Mobilizing governmental resources will evolve into a kind of principle capability, not the key resource any more. This view can also explain the fact that ONC is significant in nearly the whole regression models. Third, we measured ESC mainly through individual entrepreneur, but for listed companies, maybe the collaboration between individual entrepreneur and organizational characteristics. Simply speaking, we argue that the entrepreneur is absolutely important, but it is not the whole of corporate success.

Concerning the private firm, why are coefficients of ESC and ONC in model 7 insignificant? We also provide two types of interpretation: The first is about social ideology. Because China is a society with a Confucian culture and "differentiated order"[1] (Fei, 1945), the inertia of the bureaucratic rank system is much stronger. As a result, people in China are still apt to trust those companies with governmental investment background, and this shapes the unfair social appraisal of non-SOEs. That is to say, SOEs possess much higher original social status than non-SOEs. The second, some policies for non-SOEs and small and medium enterprises are not really carried out, and this bring these firms the inferior status—naturally inferior political social capital—during market competition. This may weaken the contribution of ESC to the performance of non-SOEs. Therefore, non-SOEs have to depend on the particular relational capital (RC) to achieve better performance.

[1] The term of "differentiated order" argues that, people in Chinese society always suppose that each individual is the central role of his social connection networks, and distinguishes his relationship with the scale of closeness, distance, social rank, etc.

6.3 The extension of CSC

Nowadays, Chinese literatures concerning social capital focus mostly on *guanxi* (e.g., linkage, friendship, kinship, inter-personal relationship), and not on the social relationship of non-kinship or business relationship. This will result in the lack of importance attached to the interactive appraisal in the corporate network, which will probably change the social status of a firm. Moreover, in a traditional Chinese firm, the private firm in particular, is portrayed as an economic organization that is too eager for economic profit to be empty of trust in and acknowledgement of other members in the corporate or social network. By doing this, in fact, people break down the theoretical and practical foundation of CSC. Therefore, we argue here that a firm should not be portrayed as a pure economic entity, but as a kind of human community firstly (De Geus, 1996), which is the essential resource of CSC. All firms should be aware that only when they get along with the members of the "corporate network community" and outside social environment can they obtain enough social capital and thus essentially sustaining competence.

7 Conclusions

Using empirical data from China, this paper examines the impact structure of social capital on corporate performance. We argue that vertical relationships with the government, particular relational capital and organizational social network capital constitute the corporate social capital (CSC), and we find that CSC has a positive impact on sales revenue but insignificant effect on the improvement of operation efficiency (ROA). Generally speaking, when a firm enlarges sales revenue, the function of organizational network capital is stronger than that of particular relational capital and governmental connections. We also find that state-owned enterprises (SOEs) have more advantages in utilizing governmental connections and getting better social status than non-SOEs do, while they have fewer advantages in using particular relational capital.

As an exploratory study, the policy implications of this paper are as follows: first, we introduce the organizational factor into the measurement of corporate social capital, and argue that social appraisal embedded in the corporate network is a kind of social capital, and this will be helpful to the enrichment of social capital theory and expand the domains of traditional social capital theory, which concerns mainly on the connection, friendship, trust and inter-person relationship, into new ones. Second, the impact of different social capitals is different, for example, CSC has a positive effect on SR while it has nothing assertive to do with the improvement of the quality of performance. This indicates that managers should appraise carefully the effectiveness of CSC, and combine it with the other resources. The last but not the least, firms should distinguish the structure of the impact of CSC (such as individual social capital, organizational social capital, etc.) on the performance improvement in a dynamic way. They should choose an appropriate type of social capital or balance impacts of different social capital in a varied social context.

Some limitations of this paper should also be discussed. Firstly, we focused our objective on listed companies in China; however, because these companies are the most successful firms, we should question the validity of generalizing from the conclusions of this study to non-listed companies or small and medium enterprises. Secondly, because the financial index published in the financial statements of listed companies is limited, we have to take some substitutive indexes to measure items of social capital and recognize that the accuracy of these indexes can still be improved.

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